# CDD Fuel: Policy Flow Chart

(Note: CDD is Construction & Demolition Debris, used interchangeably with C&D and CDW - Construction & Demolition Wood)

**Submitted by Rep. Bob Duchesne**

| **Biomass Boilers** Plant | Total Fuel | Green | CDD | Ash | New Ash | Landfill | Plans to upgrade to 100% CDD |
|---|---|---|---|---|---|---|---|
| Boralex - Livermore Falls | 286000 | 160000 | 126000 | 22880 | 0 | Norridgewock/NH | No |
| Boralex - Stratton | 426000 | 315000 | 111000 | 34080 | 0 | Norridgewock/NH | No |
| Boralex - Ashland | 400000 | 400000 | 0 | 32000 | 0 | land spread | No |
| Boralex - Ft. Fairfield | 340000 | 340000 | 0 | 27200 | 0 | land spread | No |
| Greenville Steam * | 180000 | 90000 | 90000 | 14400 | 0 | Juniper Ridge | No |
| Wheelabrator - Sherman * | 254000 | 211000 | 43000 | 20320 | 0 | Norridgewock | No |
| Sappi - Westbrook * | 200000 | 100000 | 100000 | 16000 | 0 | Juniper Ridge | No |
| GP - Old Town * | 200000 | 100000 | 100000 | 16000 | 10000 | Juniper Ridge | No |
| GenPower * | 299000 | 0 | 299000 | 23920 | 14950 | Juniper Ridge | Yes |
| Totals: | 2585000 | 1716000 | 869000 | 206800 | 24950 | | |
| All units in tons/year | | | | | | | |
| * anticipated licensed mix | | | | | | | |

***ASSERTION:*** *There are five boilers in the state already licensed to burn CDD fuel. Three more have applied, for a total of eight.*

**FOLLOW-UP:** Roughly true. Actually, there are potentially nine boilers. Two Boralex boilers in Aroostook County burn biomass but are not seeking permits to burn CDD. Sappi is already burning biomass and is seeking clearance to burn CDD. See the chart above.

**POLICY QUESTIONS:** BEP is in the middle of rule-making to create public safety standards for beneficial reuse of CDD wood as fuel. Committee may want to review rules; may decide that amounts of anticipated ash to be landfilled are excessive or that truck traffic is excessive.

**PROS:** CDD recycles burnable wood. Greatly reduces volume in landfill. Is carbon neutral: does not add to accumulated greenhouse gases. Produces renewable energy more cheaply and is needed by some paper mills to reduce energy costs. Technology has improved. Maine has a unique two-tiered oversight system. BEP is primarily responsible for reviewing the science. Natural Resources Committee is primarily responsible for reviewing the public policy. If committee intrudes to second-guess BEP and DEP scientific findings, it needs a good reason to do so.

**CONS:** CDD is a much cheaper but dirtier fuel. While normal wood ash can be spread on agricultural fields, ash that contains CDD residue has contaminants that require a secure landfill. Large quantities of fuel must come from out-of-state. About 200,000 tons of ash will need land-filling per year, accelerating the consumption of landfill capacity.

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***ASSERTION:*** *Maine biomass boilers will need 2 million tons of fuel per year.*

**FOLLOW-UP:** Actually, more. At current and anticipated rates, Maine will need over 2.5 million tons. However, even if no CDD is burned, Maine would still need 1.7 million tons of green fuel; more, if the GenPower project went ahead as a green fuel project.

**POLICY QUESTIONS**: No one seems to be objecting to biomass boilers using green wood, even though there would be just as much truck traffic and ash. Actually – MORE of each, because moisture content in green wood requires higher volumes of fuel. Do the risks of CDD outweigh the benefits?

**PROS:** Green wood is more expensive and supplies are limited. Some paper mills and power producers may shut down if energy costs are not lowered.

**CONS:** If anticipated CDD power projects go forward in Maine, Mass, and Conn., demand for CDD fuel will also rise and price will rise. Some mills and plants may face financial hardship regardless.

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***ASSERTION:*** *For every ton of CDD burned, Maine will have to landfill 5-10 tons.*

**FOLLOW-UP:** Well, no. According to figures supplied through NEWMOA, about 40% of CDD is recovered as wood. Another 10-20% is recovered as aggregate (concrete, asphalt, gravel, etc) and as scrap metal. Though the fine material (FINES = sand, grit, and tiny wood particles) is landfilled, it is useful as a cover. Thus, including the ash, roughly one ton is landfilled for every ton of CDD burned. Note that if the CDD is not processed, it gets landfilled anyway. The bulk is much greater, taking up more landfill capacity, but the toxicity is less concentrated.
CAVEAT! There are two streams of CDD waste. There is the bypass from CDD processed in Maine and there is the bypass from CDD processed out of state. Maine's CDD processing capacity is tiny. We only process about 16% of our CDD and that is primarily at Casella's KTI Biofuels facility. Under its operating service agreement with Juniper Ridge and GP in Old Town, the state has agreed that Casella needs to import unprocessed CDD to its KTI facility and the bypass is considered Maine waste, which can go to Juniper Ridge. This amount is also relatively tiny because KTI's overall capacity is relatively tiny.
The other stream of CDD waste is direct import to Maine's commercial facility. This is a very high number. Several hundred thousand tons a year get landfilled just at Pine Tree in Hampden alone. For every two tons of Maine CDD that gets landfilled there, two tons of out-of-state CDD gets landfilled there and that ratio is growing as Maine CDD is diverted to Juniper Ridge.

**POLICY QUESTIONS:** How much is too much? Maine can't ban out-of-state waste from commercial landfills but can from Juniper Ridge. When an operator has multiple sites under control, and can shift as much Maine waste to Old Town as possible in order to save capacity for commercial landfills, is this circumventing Maine's 1989 policy intent?

**PROS:** Cheap fuel in a state that has very high energy costs.

**CONS:** Landfill capacity used up faster, necessitating additional landfill siting years ahead of anticipated need.

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***ASSERTION:*** *Maine will have to import millions of tons of unprocessed CDD in order to feed its boilers. The bypass becomes Maine waste.*

**FOLLOW-UP:** No. Maine's current processing capacity is tiny. It can't even process most of its own CDD, let alone every one else's. Maine is way behind other states in its capacity to process and recycle CDD (only about 16%, compared to 77% in MA.) Almost all of the fuel will come into the state already processed. Most of the by-pass will remain in the state of origin. Actually, it's not cost effective to truck in much unprocessed CDD. It is too bulky to ship distances at today's fuel prices. It is more economical to process it locally and ship the sorted components separately.

**POLICY QUESTIONS:** Should Maine be doing more to encourage its own recycling efforts: Even if the wood is considered unsafe to burn, aggregate and scrap metal could be salvaged?

**PROS:**

**CONS:**

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*ASSERTION: Maine will have to deal with overweight trash trucks.*

**FOLLOW-UP:** Many, many trucks carrying MSW are overweight. Trucks carrying CDD and CDD fuel are not. CDD is too bulky, yielding a low tons/volume ratio. CDD wood, is only about 10-20% moisture, compared to 40-50% in green wood. These cargoes are relatively light, even when trucks are loaded to capacity.

**POLICY QUESTIONS:** Are overweight trash trucks a policy question for Natural Resources, or should the matter be referred to Transportation or Criminal Justice & Public Safety? Actually, the question of truck traffic is a big one. Maine is seeing a lot more heavy trucks added to the flow in urban and residential corridors due to increased traffic in solid waste. The real policy question is: Is there a substantive difference between trash trucking and other trucking? If there was a sudden jump in demand for Maine potatoes, would we be equally upset about the number and weight of the potato trucks? Or logging trucks? Or electronic component trucks? What is the difference with trash trucks?

**PROS:** There is no substantive difference.

**CONS:** The cargo of trash trucks contains some level of hazardous material, increasing public risk in the event of an accident. There is also injury to the feeling of social justice. That is, there is a popular sense that Maine gains no benefit at all from the increased truck traffic in the way that they would gain benefit if the trucks contained Maine commercial products. This sense perceives that Mainers are being saddled with a burden disproportionate to their share, that they are relieving other states of the responsibility of dealing with their own wastes merely because Maine has available landfill capacity.

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*ASSERTION: All other New England states have banned or placed a moratorium on the burning of CDD fuel.*

**FOLLOW-UP**: Actually, no. NH has a moratorium until July while it works out rules. All other states permit it. The reason Maine has biomass boilers and other states don't is because we were already burning green wood and lumber yard residue – fuel sources that are not common in southern New England. And it is tremendously difficult to find suitable sites on industrial zoned lands near transmission lines and 600 gallons/minute water sources in Southern New England. GenPower is currently looking at sites in Mass and Conn for burning 100% CDD. These would be similar to the facility they are proposing for Athens, Maine.

**POLICY QUESTIONS:** Are the rules proposed by DEP and under review by BEP ample to protect the Maine public? Should the committee make the rules Major Substantive, subject to the committee's review?

**PROS:** The issues of public health, safety and welfare are substantial.

**CONS:** The rules establish scientific standards that did not previously exist. Delaying the rules means delaying the ability of certain Maine industries to save money and, in some cases, remain viable. Is there sufficient

reason to distrust the scientific competence of DEP and BEP? Do policy issues around truck traffic and landfill capacity trump the scientific rule-making.

***ASSERTION:*** *These rules open the door for all biomass boilers to burn 100% CDD, a dirtier fuel.*

**FOLLOW-UP:** Technically true. Any plant that can meet the standards could be permitted to burn 100% CDD. Most of the plants could be retrofitted with Best Available Control Technology. However, for practical purposes, only the proposed GenPower project is likely to meet the standards. I've spoken directly to all the plants and none other anticipates upgrading for a variety of reasons. For instance, the paper company plants Sappi and GP, have other fuel streams from their wood-cutting operations. (GP has four facilities that chip waste wood from forestry operations.) Sappi would need to spend $10,000,000 to upgrade without assurance that the CDD fuel source will remain cheap and available. Plus the upgrade would kick in additional federal air emission requirements. Greenville Steam already has sources of low-cost local fuel and CDD would be only a supplement to that supply, negating any advantage to upgrade. Wheelabrator in Sherman would be too costly to upgrade and the additional transportation costs to a site that far north negate much of the fuel price advantage. In fact, the fuel price advantage just about vanishes for boilers in Aroostook County were there are still plenty of fuel sources from forestry and lumberyard residue.

**POLICY QUESTIONS:** Market conditions can change. If transportation costs change – for instance, if more states use rail to ship processed CDD to northern biomass boilers - or if a paper company shuts down but the boiler remains online as an electricity generator, conversions and upgrades will still be possible and legal. Is 100% CDD fuel inherently too risky?

**PROS:** Today's technology is superlative in removing contaminants from a state-of-the-art boiler. DEP has paid good attention to the other parts of the fuel chain, proposing rules that regulate the fuel from processing to storing – both areas of trouble in the past.

**CONS:** The fuel is inherently risky and DEP shouldn't be trusted.